

**OCCUPATIONAL SAFETY  
AND HEALTH STANDARDS BOARD**

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**PROPOSED PETITION DECISION OF THE  
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD  
(PETITION FILE NO. 507)**

**INTRODUCTION**

The Occupational Safety and Health Standards Board (Board) received a petition on August 7, 2008, from Ms. Bo Bradley, Director of Safety, Health and Regulatory Services, representing Associated General Contractors of California (AGC), and Mr. Guy Prescott, Director of Safety, representing Operating Engineers, Local 3 (Petitioners). The Petitioners request the Board to amend Title 8, California Code of Regulations, Sections 1590, 1591 and 1597 of the Construction Safety Orders (CSO), concerning modifications and structural changes to construction equipment and construction equipment exhaust systems.

Labor Code section 142.2 permits interested persons to propose new or revised standards concerning occupational safety and health, and requires the Board to consider such proposals, and render a decision no later than six months following receipt. Further, as required by Labor Code section 147, any proposed occupational safety or health standard received by the Board from a source other than the Division of Occupational Safety and Health (Division) must be referred to the Division for evaluation, and the Division has 60 days after receipt to submit a report on the proposal.

**SUMMARY**

The Petitioners state that recent modifications to haulage vehicles and other off-road vehicles to comply with new California Air Resources Board (ARB) requirements have created safety hazards due to the way large or bulky diesel particulate filters are placed on equipment.

The Petitioners have proposed amendments to the CSO that they say are necessary to ensure that verified diesel exhaust control systems (VDECS) installed on haulage vehicles and earthmoving equipment do not create safety hazards. The Petitioners believe that VDECS which have been installed, or are required to be installed on equipment in the future, create, or have the potential to create, the following hazards when VDECS are placed inappropriately:

1. Exposure to the extremely hot surfaces especially when VDECS are placed adjacent to hand rails and ladders.
2. Operator exposure to radiant heat from VDECS placed adjacent to the operator's station.
3. Impairment of the operator's field of vision to the front, side and rear.
4. Operator exposure to engine exhaust.
5. Fires caused by oil, hydraulic fluid, or fuel contacting extremely hot VDECS.
6. Modifications to the vehicle that result in loss of stability, structural integrity, handling, capacity, or safety.

## DIVISION'S EVALUATION

On September 12, 2008, the Board received the Division's evaluation of the Petition. The Division supports the Petitioners' proposed modifications and believes that the proposed modifications will improve the clarity of the existing standards. The Division also believes that there is a consensus among the principal stakeholders as to the necessity for the proposed amendments and that the proposal may be adopted with little or no modifications.

## STAFF'S EVALUATION

The Petitioners propose to amend the CSO as follows:

### **1590. Haulage and Earthmoving, General.**

\* \* \*

1590(d) Exhaust. ~~Arrangements shall be made to direct exhaust gases away from the operator's breathing zone.~~

- (1) Engine exhaust piping shall direct exhaust gases away from the operator's breathing zone.
- (2) No modifications shall be made to the exhaust systems that would create a fire hazard or expose employees to burns from radiant heat and or high temperature surfaces.

\* \* \*

### **1591. Haulage Vehicles, Equipment-Construction and Maintenance.**

\* \* \*

1591(b) Equipment and accessories. ~~Installed on haulage vehicles shall be arranged so as to avoid impairing the driver's operational vision to the front or sides.~~

- (1) Equipment and accessories installed on haulage vehicles shall be so arranged as to avoid impairing the driver's operational vision.
- (2) Modifications and structural changes to haulage and earth moving vehicles that affect the capacity, safety, structural integrity, operator's visibility, or handling of the vehicle shall not be performed by the employer or user without prior written approval from the manufacturer.

\* \* \*

### **1597. Jobsite Vehicles.**

\* \* \*

(l) Vehicles excluded from provisions of 1591 and the State of California Motor Vehicle Code shall not be modified in any way that affects the capacity, safety, structural integrity, operator's visibility, or handling of the vehicle without prior written approval from the vehicle's manufacturer or certification of modifications by a California registered Professional Engineer.

(m) Exhaust.

- (1) Engine exhaust piping shall direct exhaust gases away from the operator's breathing zone.
- (2) No modifications shall be made to the exhaust systems that would create a fire hazard or expose employees to burns from radiant heat and or high temperature surfaces.

The ARB In-Use Off-Road Diesel Vehicle regulation offers an exception for equipment that is determined to be unsafe to retrofit with available VDECS. When making that determination, the ARB considers whether the installation of the VDECS would make compliance with occupational safety and health requirements impossible. The ARB Off-Road Implementation Advisory Group (ORIAG) and the ORIAG safety subcommittee are developing a process to evaluate requests for exemptions. Mr. Prescott and Board, Division, and federal Mine Safety and Health Administration staff attended the ARB safety meeting on October 2, 2008, at which retrofit safety was discussed. Mr. Larry McCune, Division Principal Safety Engineer, provided a summary of relevant accident statistics. The Division's research shows that during an approximately 8-year period ending in 2007 there were 44 fatalities and 45 severe injuries to employees caused by contact with moving haulage vehicles, earthmoving equipment and similar off-road equipment.

These accident statistics indicate that it is reasonable to anticipate that modifications of off-road vehicles that significantly reduce the operator's field of view would likely result in additional fatalities and serious injuries to employee's working in the vicinity of the equipment. Board staff believes that the proposed amendments are necessary to clarify the existing requirement to locate accessories on equipment so as to avoid impairing the operator's vision and ensure that this requirement applies not only to haulage vehicles, but also to similar equipment where accident statistics have shown that impairing the operator's field of view contributes to fatal accidents. Board staff believes that the Petitioners' proposed amendments regarding exhaust systems also have merit, because they provide protection from fires and thermal burns caused by extremely hot exhaust systems, especially when the systems are not part of the original equipment design and may be placed in hazardous locations.

Lastly, staff believes that it is reasonable to consider the Petitioners' proposed amendments to Sections 1591 and 1597 which would make haulage vehicles and job-site vehicles subject to requirements that are similar to those in Section 3650(e) of the General Industry Safety Orders, which pertains to industrial trucks and reads as follows:

*Major modifications and structural changes to high lift trucks, industrial trucks and rider trucks that affect the capacity and safe handling of the vehicles shall not be performed by the employer or user without prior written approval from the manufacturer unless the modification is designed, manufactured, and installed in accordance with recognized good engineering and manufacturing principles. The capacity, operation and maintenance instruction plates shall be changed accordingly.*

On October 9, 2008, staff informed Ms. Beth White, ARB ORIAG contact person, of the Petition and explained the petition process. Staff believes that the ORIAG safety meetings provide a mechanism for interested parties, including the Petitioners and Division and Board staff, to address the safety issues surrounding the ARB diesel exhaust retrofit program for in-use, off-road vehicles.

Board staff recommends that the Petition be granted and that staff work with the Petitioners, ARB, and other affected parties, as appropriate, to develop a rulemaking proposal to be

presented to the Board at a future public hearing. Board staff concurs with the Division that an advisory committee is not necessary, given that the principal labor and management stakeholders appear to be in agreement regarding the proposed amendments.

### CONCLUSION AND ORDER

The Occupational Safety and Health Standards Board has considered the petition of Ms. Bo Bradley, Director of Safety, Health and Regulatory Services, representing Associated General Contractors of California (AGC), and Mr. Guy Prescott, Director of Safety, representing Operating Engineers, Local 3, (Petitioners), to make recommended changes to Sections 1590, 1591 and 1597 of the Construction Safety Orders, concerning modifications and structural changes to construction equipment and construction equipment exhaust systems. The Board has also considered the recommendations of the Division and Board staff. For reasons stated in the preceding discussion, the Petition is hereby granted and staff is directed to work with the Petitioners, ARB, and other affected parties, as appropriate, to develop a rulemaking proposal to be presented to the Board at a future public hearing.